

FIG. 1

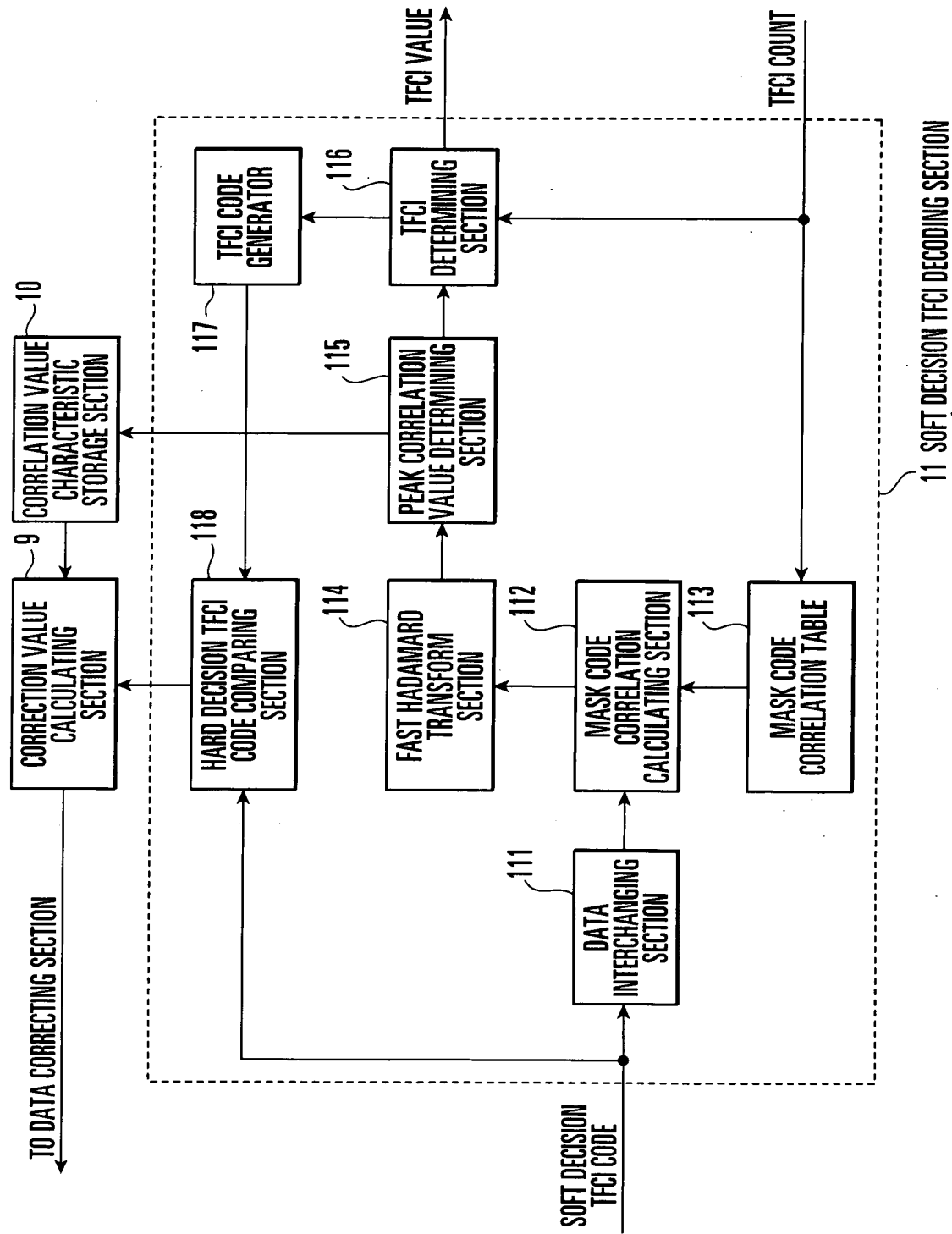


FIG. 2

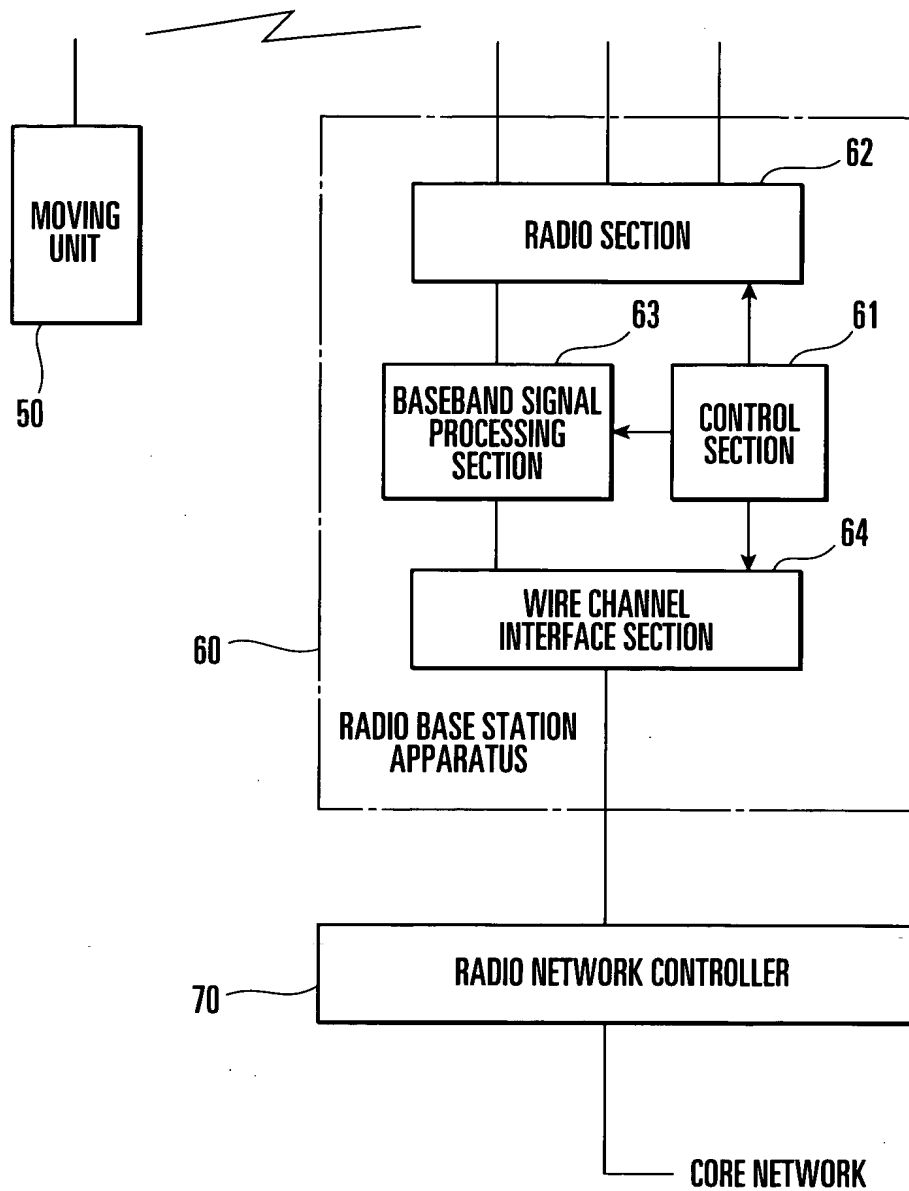


FIG. 3

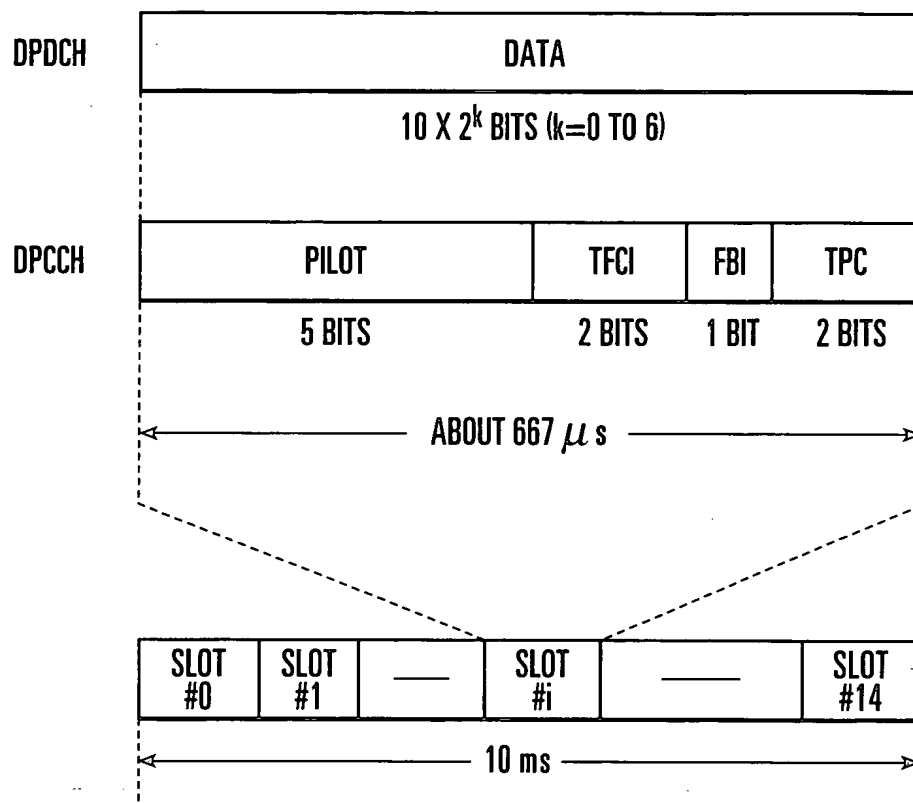


FIG. 4

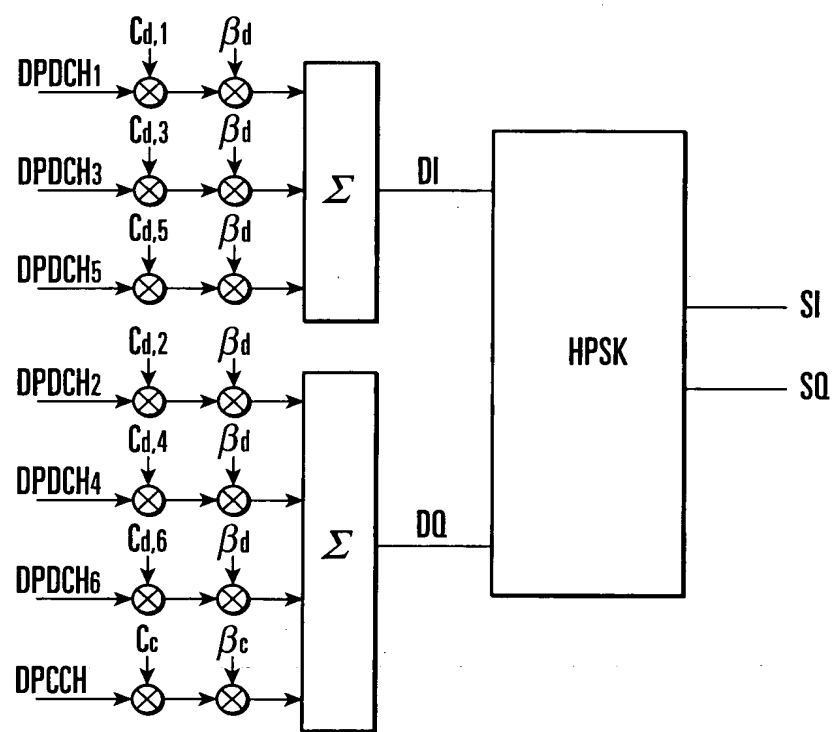


FIG. 5

BASIS SEQUENCES FOR (32,10) TFCI CODE

1	M ₁₀	M ₁₁	M ₁₂	M ₁₃	M ₁₄	M ₁₅	M ₁₆	M ₁₇	M ₁₈	M ₁₉
0	1	0	0	0	0	1	0	0	0	0
1	0	1	0	0	0	1	1	0	0	0
2	1	1	0	0	0	1	0	0	0	1
3	0	0	1	0	0	1	1	0	1	1
4	1	0	1	0	0	1	0	0	0	1
5	0	1	1	0	0	1	0	0	1	0
6	1	1	1	0	0	1	0	1	0	0
7	0	0	0	1	0	1	0	1	1	0
8	1	0	0	1	0	1	1	1	1	0
9	0	1	0	1	0	1	1	0	1	1
10	1	1	0	1	0	1	0	0	1	1
11	0	0	1	1	0	1	0	1	1	0
12	1	0	1	1	0	1	0	1	0	1
13	0	1	1	1	0	1	1	0	0	1
14	1	1	1	1	0	1	1	1	1	1
15	1	0	0	0	1	1	1	1	0	0
16	0	1	0	0	1	1	1	1	0	1
17	1	1	0	0	1	1	1	0	1	0
18	0	0	1	0	1	1	0	1	1	1
19	1	0	1	0	1	1	0	1	0	1
20	0	1	1	0	1	1	0	0	1	1
21	1	1	1	0	1	1	0	1	1	1
22	0	0	0	1	1	1	0	1	0	0
23	1	0	0	1	1	1	1	1	0	1
24	0	1	0	1	1	1	1	0	1	0
25	1	1	0	1	1	1	1	0	0	1
26	0	0	1	1	1	1	0	0	1	0
27	1	0	1	1	1	1	1	1	0	0
28	0	1	1	1	1	1	1	1	1	0
29	1	1	1	1	1	1	1	1	1	1
30	0	0	0	0	0	1	0	0	0	0
31	0	0	0	0	1	1	1	0	0	0

COMBINATION IS QUADRATURE VECTOR
OR ROW VECTOR OF WALSH MATRIX

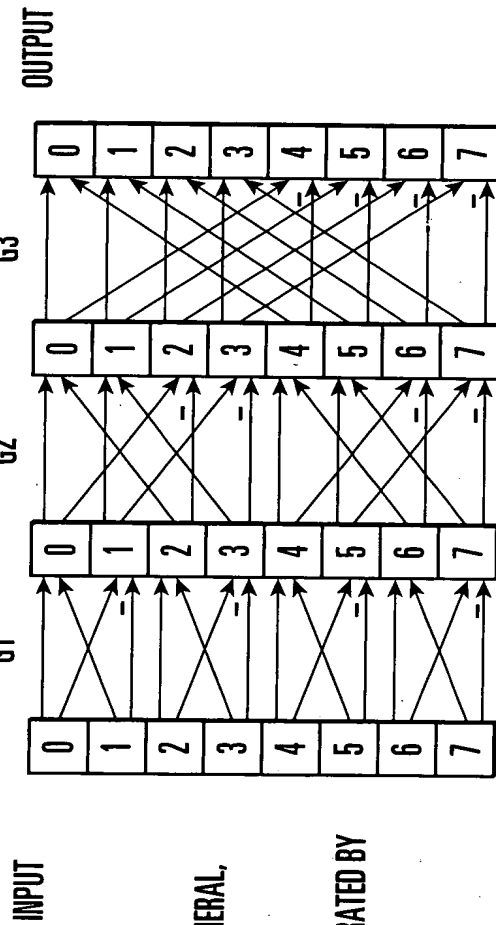
MASK CODE

FIG. 6

WALSH MATRIX

$$\begin{bmatrix}
 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 \\
 1 & -1 & 1 & -1 & 1 & -1 & 1 & -1 \\
 1 & 1 & -1 & -1 & 1 & 1 & -1 & -1 \\
 1 & -1 & 1 & 1 & -1 & -1 & 1 & 1 \\
 1 & 1 & 1 & -1 & -1 & 1 & -1 & -1 \\
 1 & -1 & 1 & -1 & -1 & 1 & 1 & -1 \\
 1 & 1 & -1 & -1 & 1 & -1 & -1 & 1 \\
 1 & -1 & 1 & 1 & -1 & -1 & 1 & -1
 \end{bmatrix}
 =
 \begin{bmatrix}
 \boxed{1} & \boxed{1} & 0 & 0 & 0 & 0 & 0 & 0 \\
 \boxed{1} & -\boxed{1} & 0 & 0 & 0 & 0 & 0 & 0 \\
 0 & 0 & \boxed{1} & 1 & 0 & 0 & 0 & 0 \\
 0 & 0 & 1 & -\boxed{1} & 0 & 0 & 0 & 0 \\
 0 & 0 & 0 & 0 & \boxed{1} & 0 & 0 & 0 \\
 0 & 0 & 0 & 0 & 0 & \boxed{1} & 0 & 0 \\
 0 & 0 & 0 & 0 & 0 & 0 & \boxed{1} & -\boxed{1} \\
 0 & 0 & 0 & 0 & 0 & 0 & -\boxed{1} & \boxed{1}
 \end{bmatrix}
 \begin{matrix}
 G1 \\
 G2 \\
 G3
 \end{matrix}$$

□ IS BUTTERFLY COMPUTATION ARRANGEMENT



$$H_8 = \begin{bmatrix} 1 & 1 \\ 1 & -1 \end{bmatrix} \otimes H_4$$

WHERE \otimes IS KRONECKER PRODUCT. IN GENERAL,

$$H_k = \begin{bmatrix} 1 & 1 \\ 1 & -1 \end{bmatrix} \otimes H_{k/2}$$

KTH-ORDER WALSH MATRIX CAN BE GENERATED BY

FIG. 7

FIG. 8A

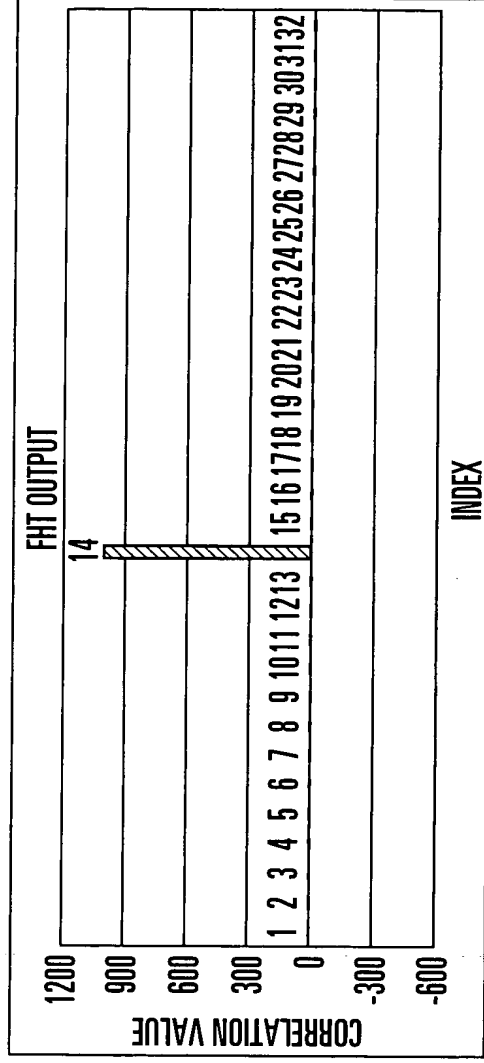
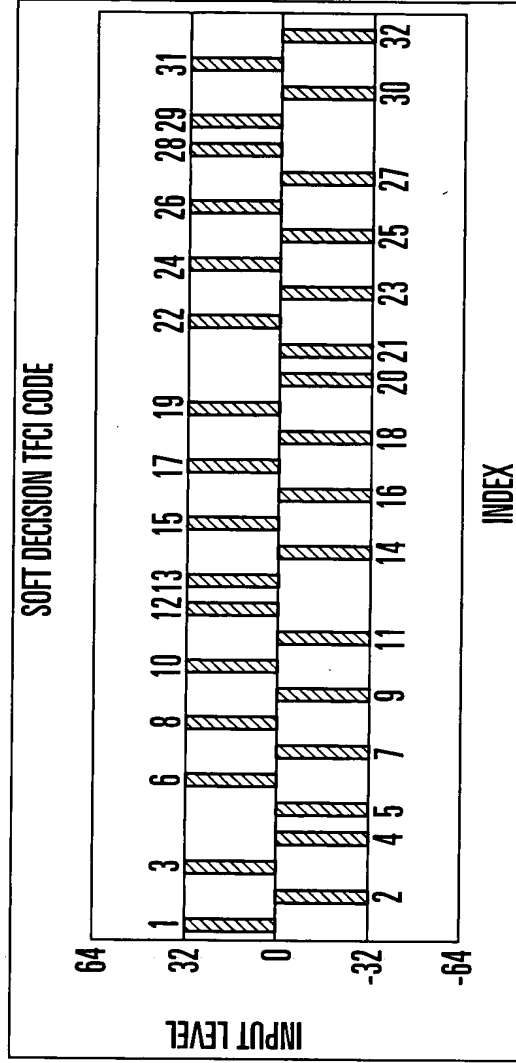


FIG. 8B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 0

FIG. 9A

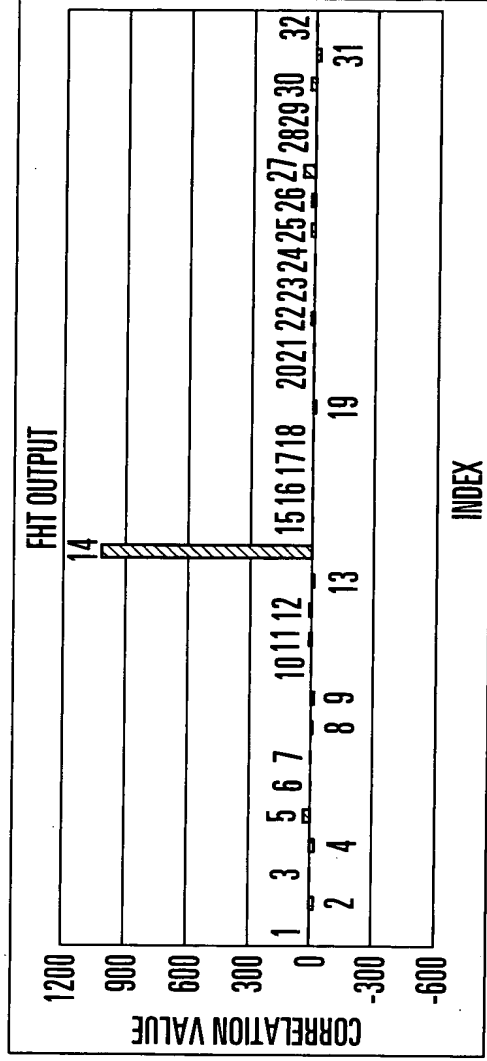
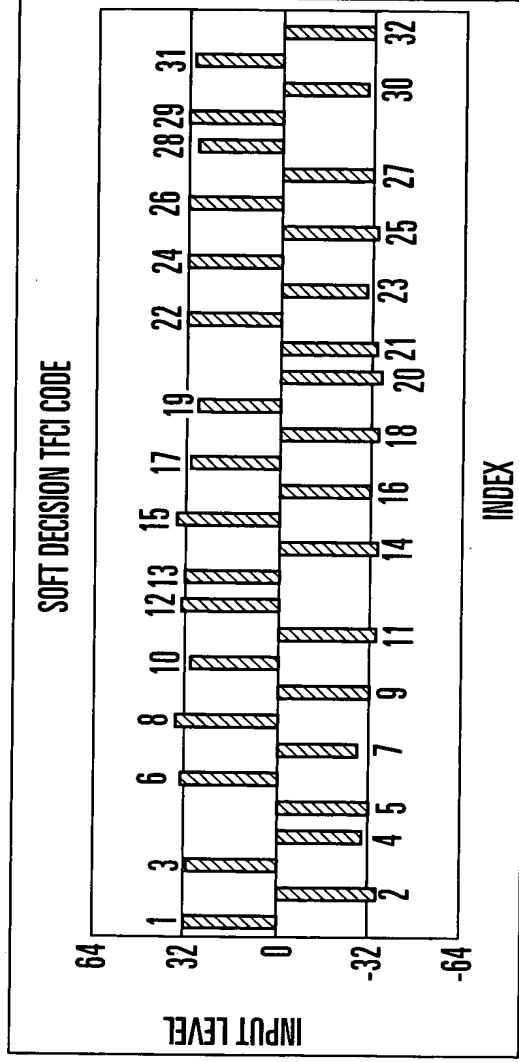


FIG. 9B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 4

FIG. 10A

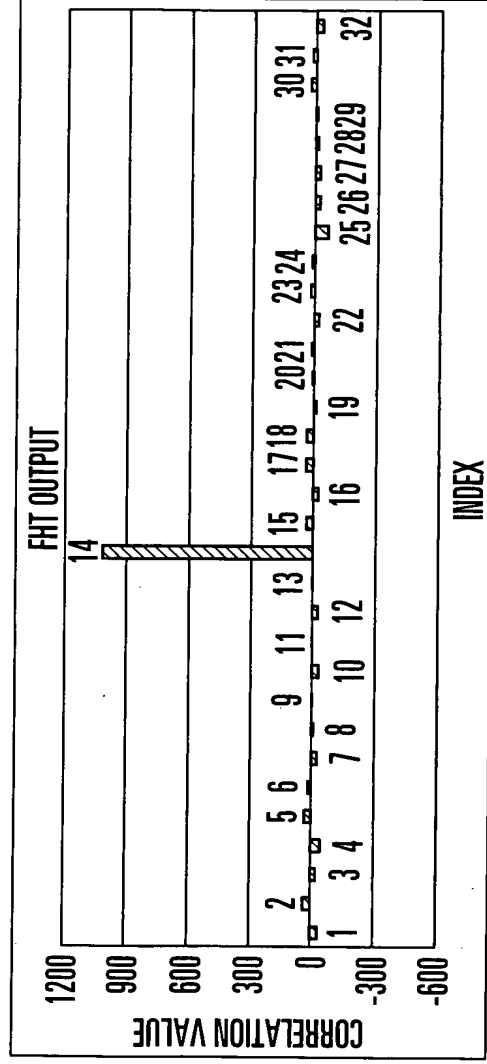
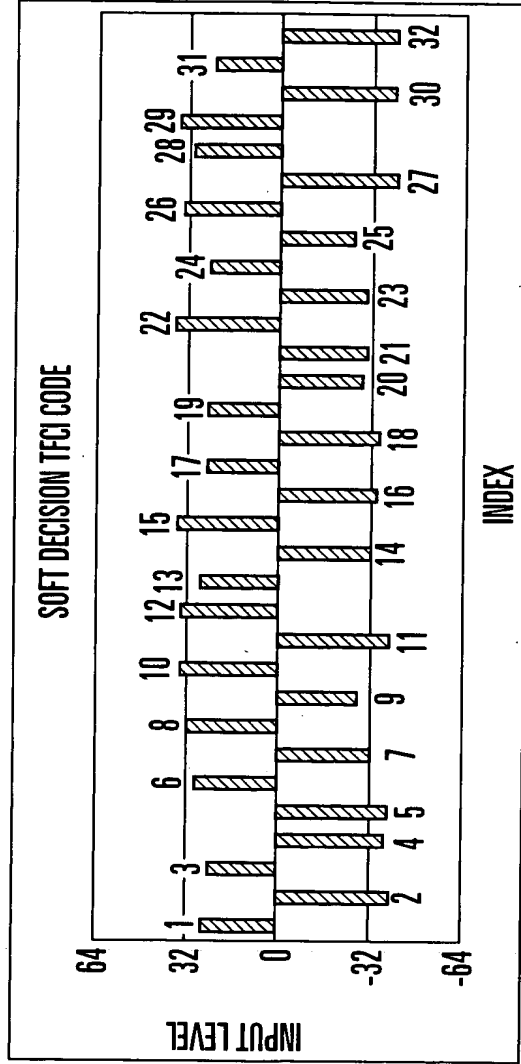


FIG. 10B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 8

FIG. 11A

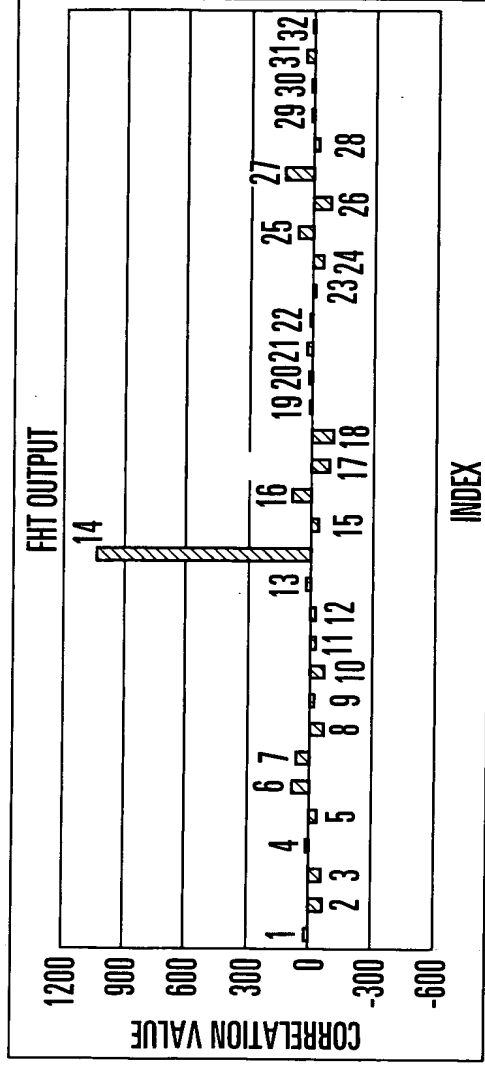
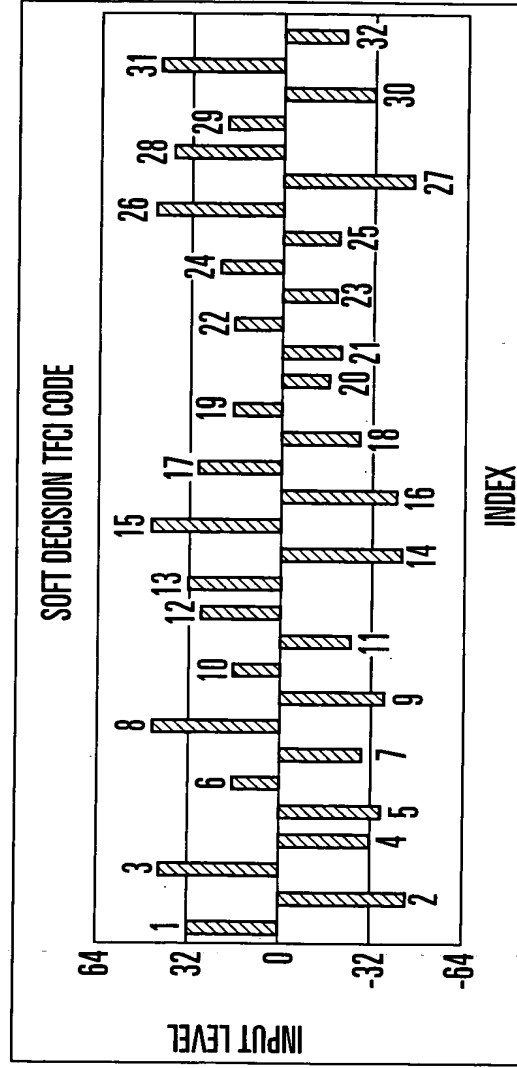


FIG. 11B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 16

FIG. 12A

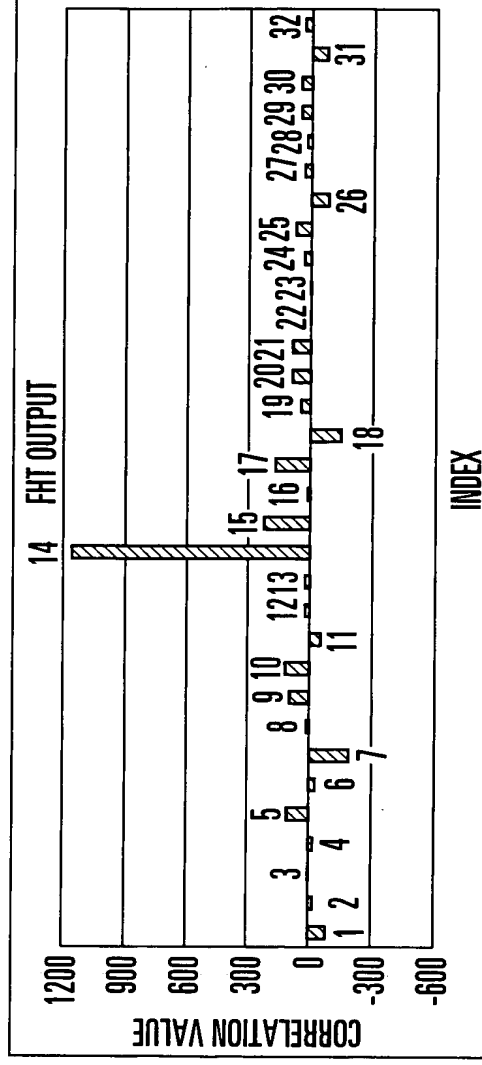
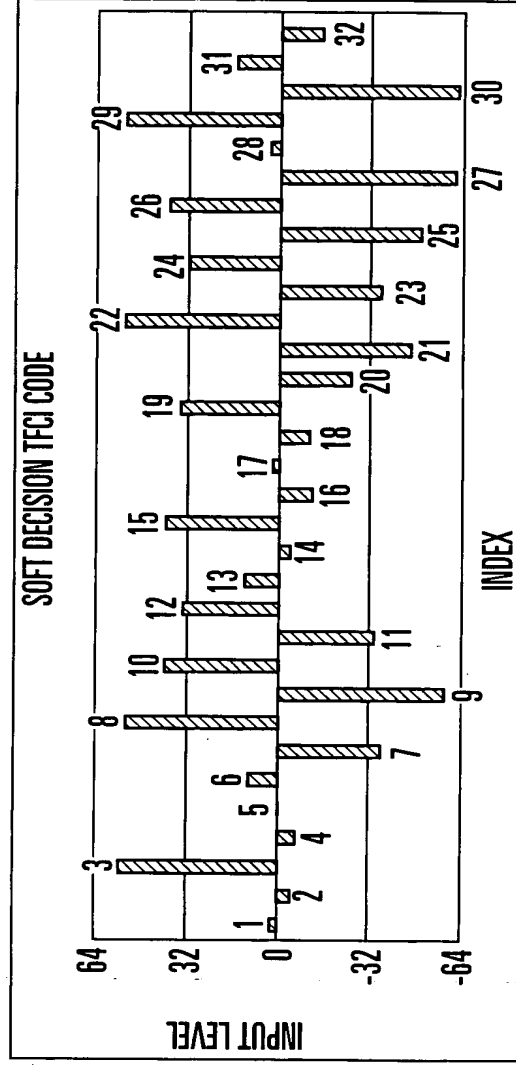


FIG. 12B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 32

FIG. 13A

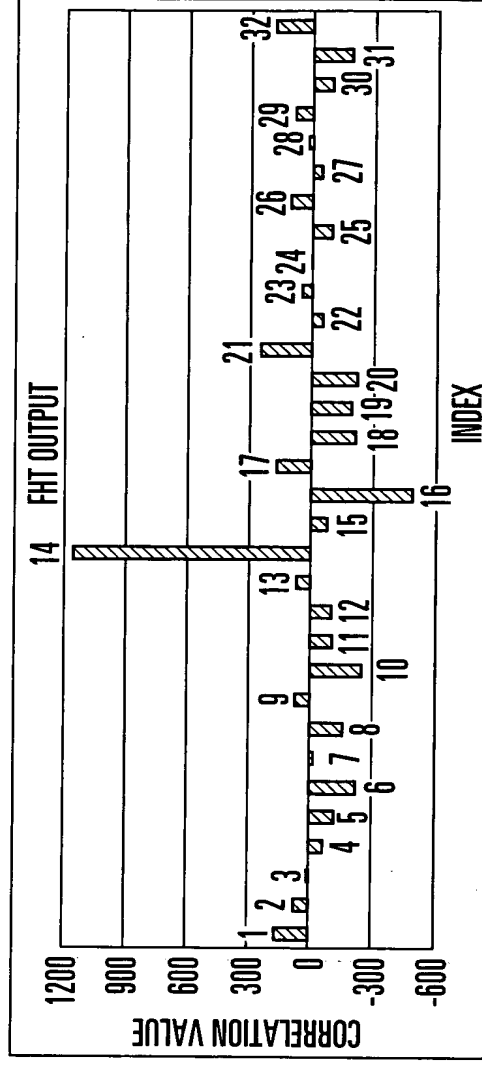
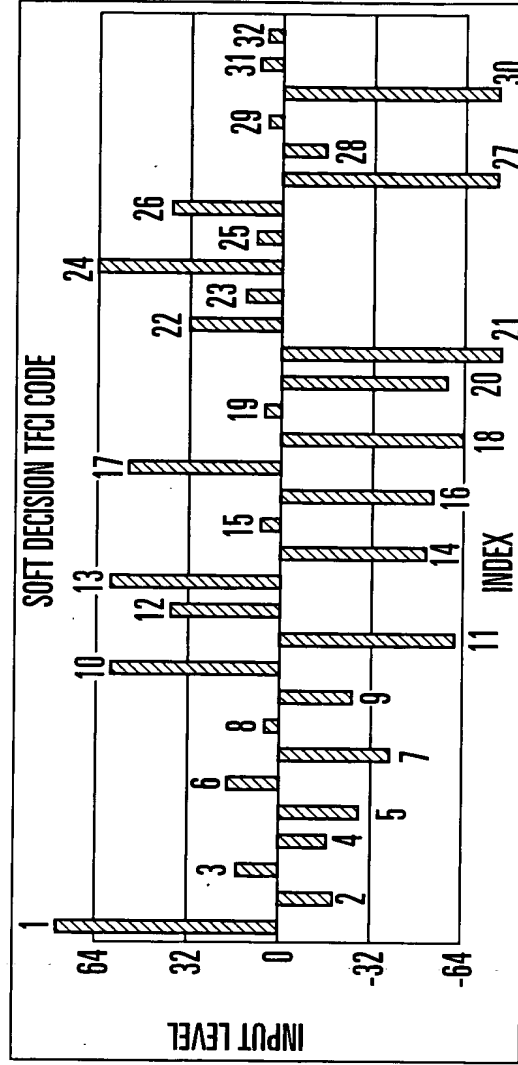


FIG. 13B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 48

FIG. 14A

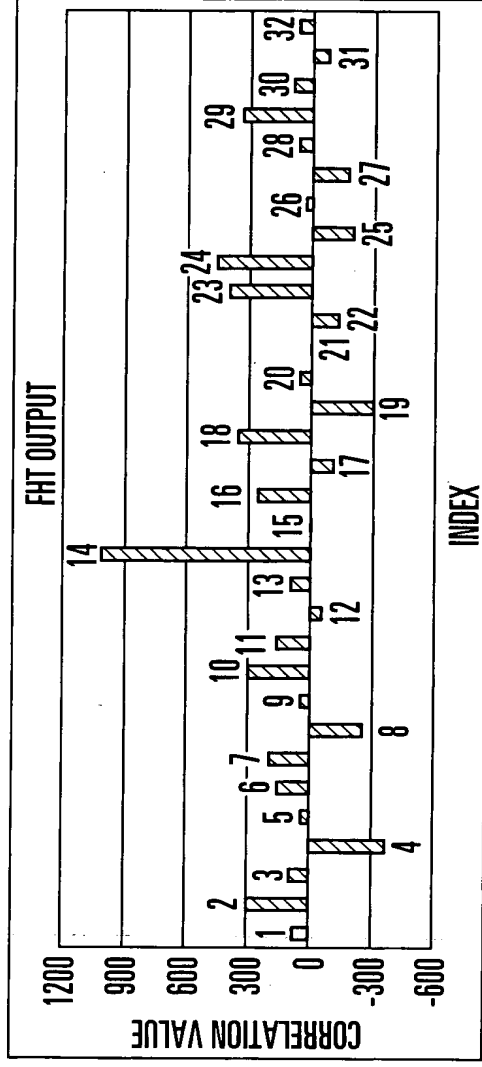
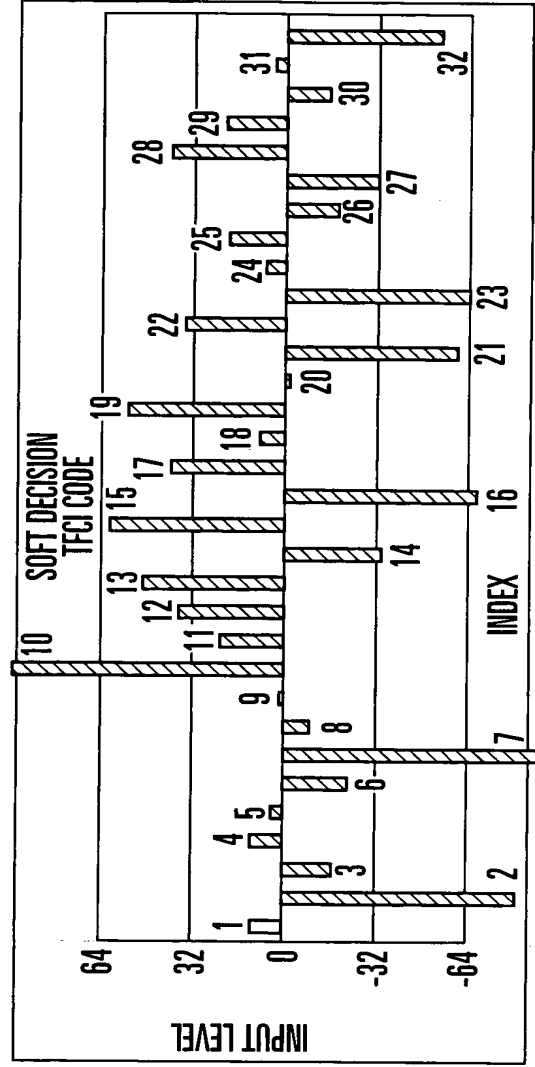


FIG. 14B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 64

FIG. 15A

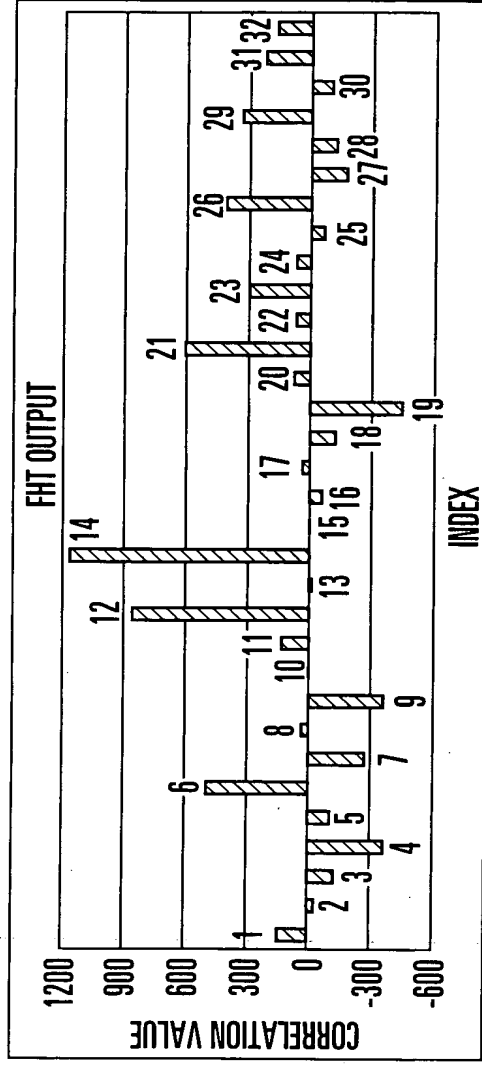


FIG. 15B

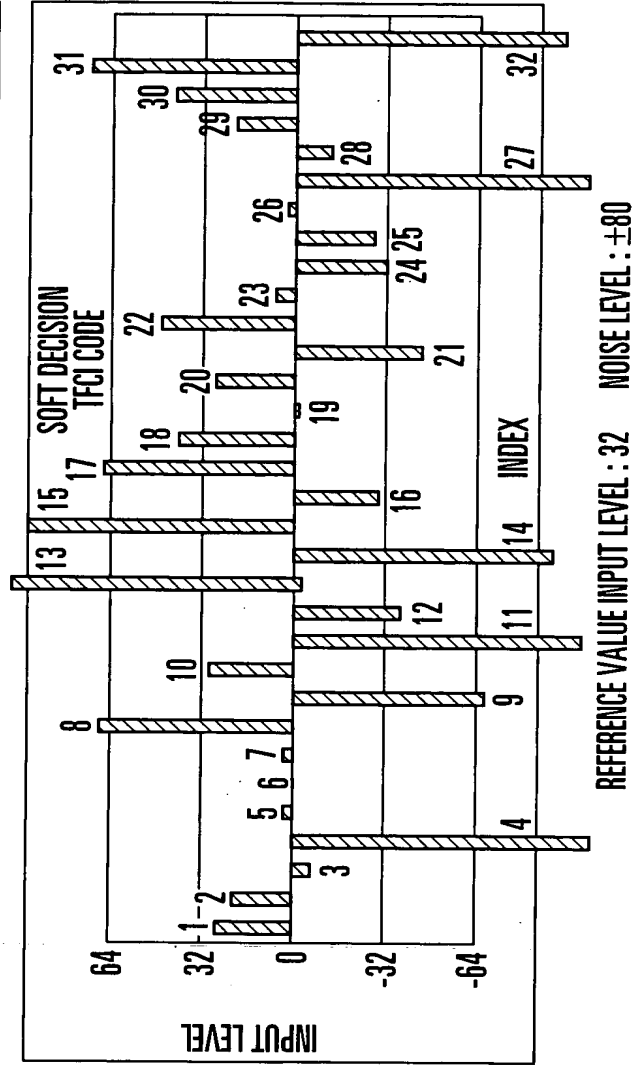


FIG. 16A

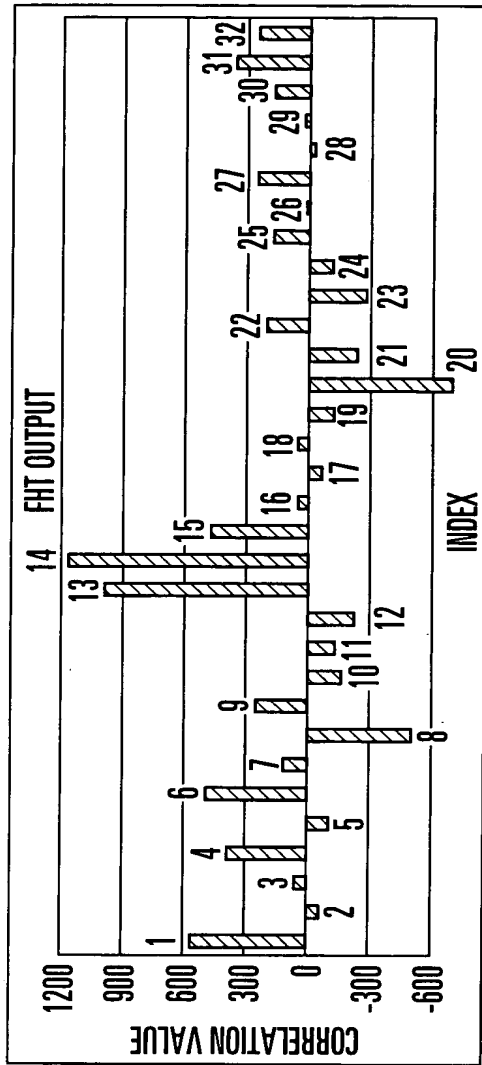
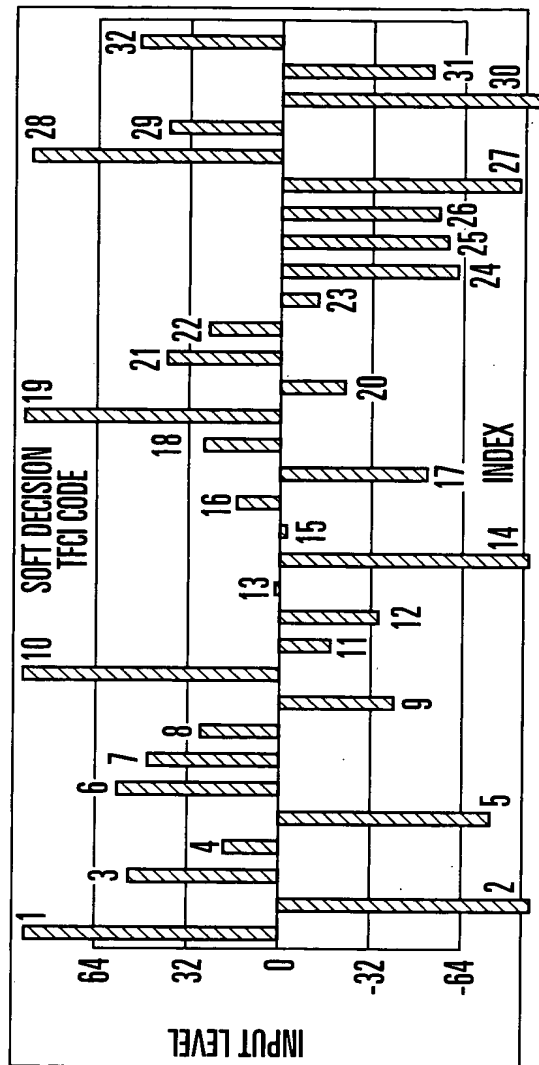


FIG. 16B



REFERENCE VALUE INPUT LEVEL : 32 NOISE LEVEL : ± 96

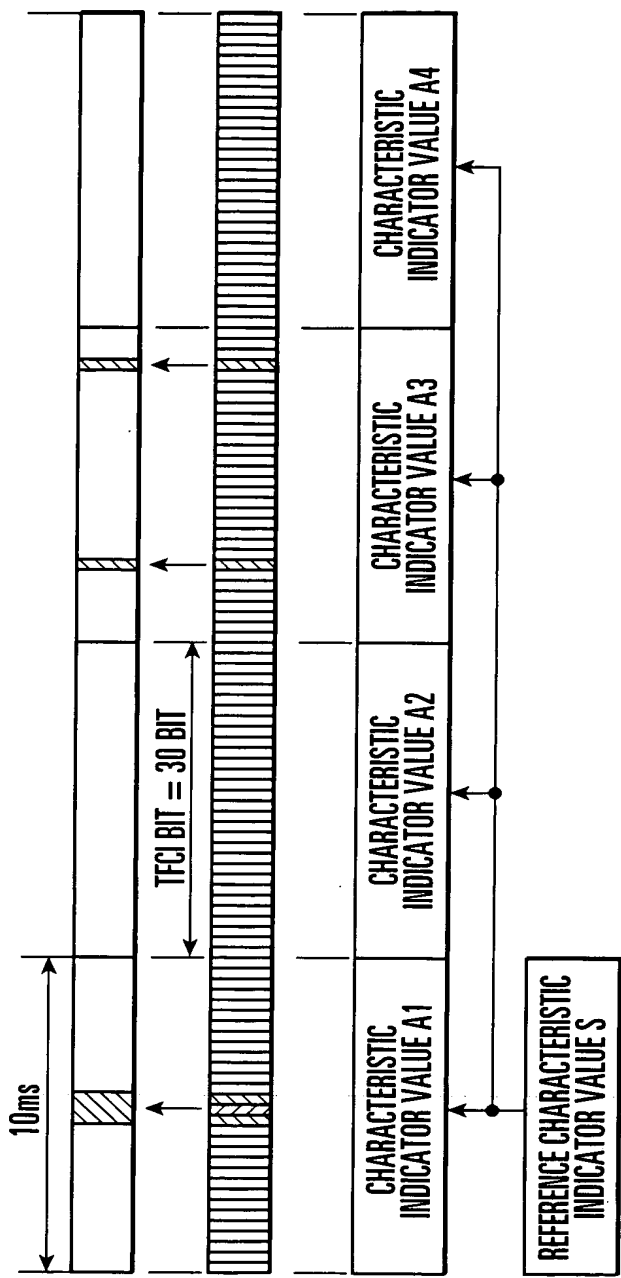


FIG. 17A

FIG. 17B

FIG. 17C